

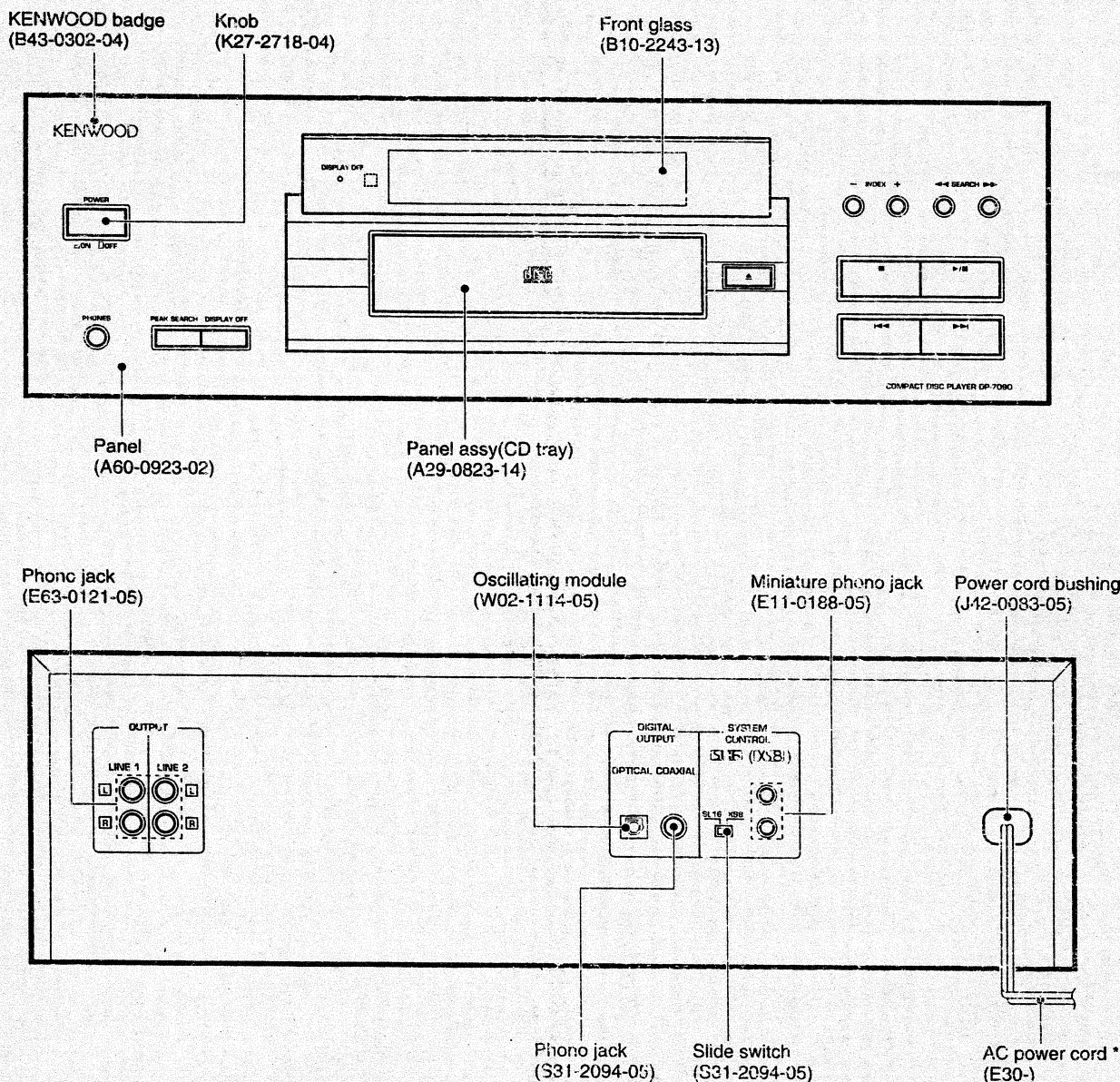
COMPACT DISC PLAYER

DP-7090

SERVICE MANUAL

KENWOOD

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* Refer to parts list on page 23.



In compliance with Federal Regulations, following are reproductions of labels on, or inside the product relating to laser product safety.

KENWOOD-Corp. certifies this equipment conforms to DHHS Regulations No. 21 CFR1040. 10, Chapter 1, Subchapter J.

DANGER : Laser radiation when open and interlock defeated. AVOID DIRECT EXPOSURE TO BEAM.

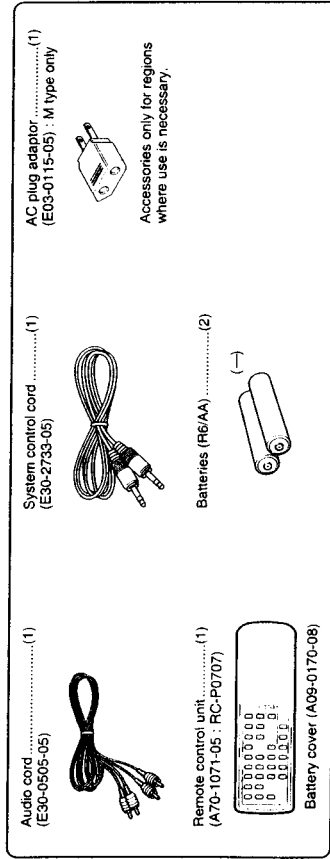
DP-7090

CONTENTS / ACCESSORIES / CAUTIONS

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Accessories



Cautions

Note related to transportation and movement

- Before transporting or moving this unit, carry out the following operations.
1. Turn the power ON but do not load a disc.
 2. Wait a few seconds and verify that the display shown appears.
 3. Turn the power OFF.



Beware of condensation

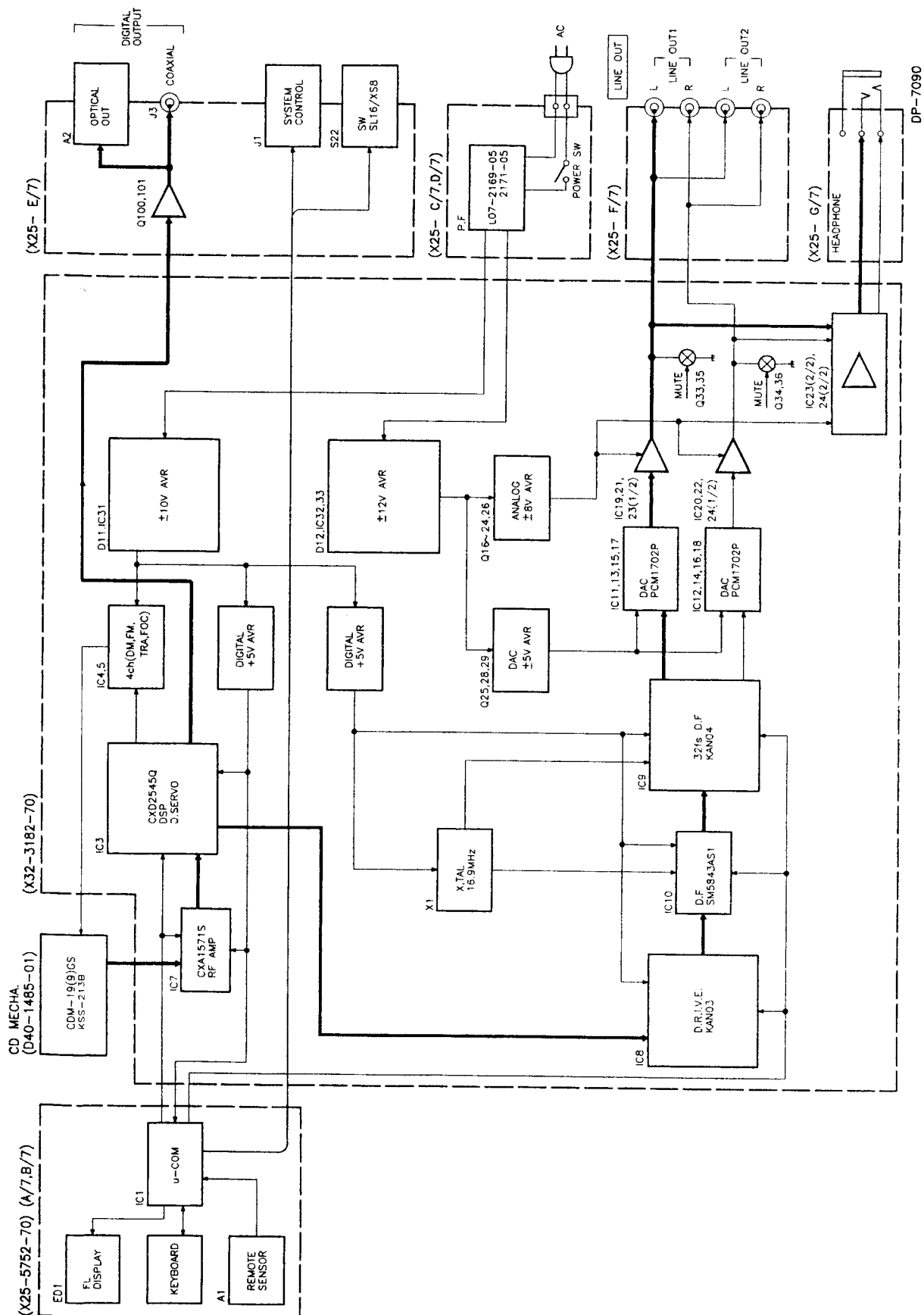
When the unit comes into contact with the surface of cold material, water droplets may occur. If condensation occurs, correct operation may not be possible. If the unit is not used for a long time, the unit may be damaged. If the unit should be dried. (To do this, turn the POWER switch ON and leave the unit for several hours.)

Be especially careful in the following conditions:

- When the unit is brought from a cold place to a warm place, such as from a cold storage room to a room.
- When a heater starts operating.
- When the unit is brought from an air-conditioned place to a place of high temperature with high humidity.
- When there is a large difference between the internal temperature of the unit and the ambient temperature, or in conditions where condensation occurs easily.

DP-7090

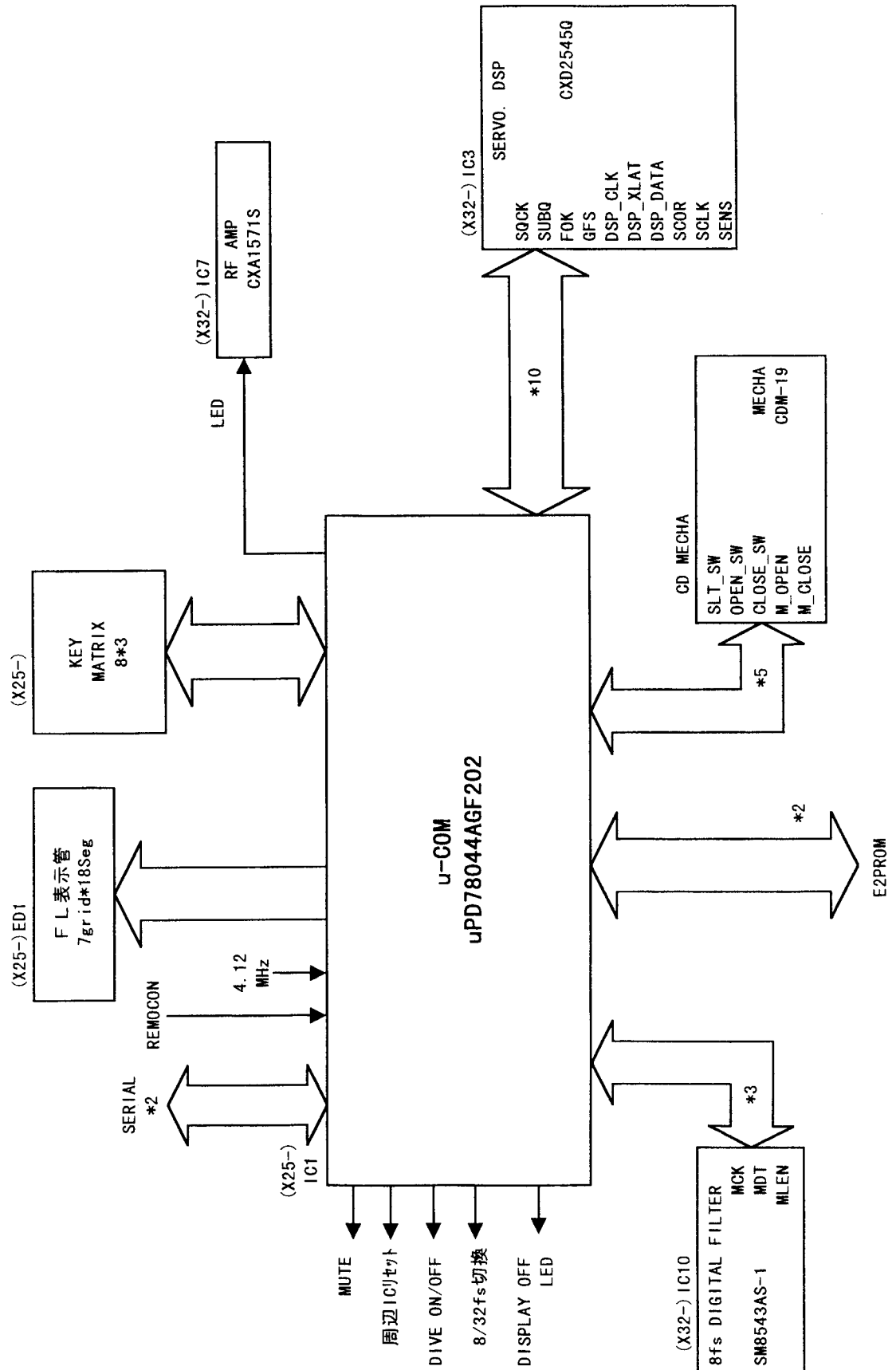
BLOCK DIAGRAM



DP-7090

CIRCUIT DESCRIPTION

1. Microprocessor uPD78044AGF202(X25- IC1)



CIRCUIT DESCRIPTION

CIRCUIT DESCRIPTION

2. Pin description

No.	Name	I/O	Description
1	GRID_1	O	FL grid signal output. Grid 1
2	GRID_3	O	FL grid signal output. Grid 3
3	GRID_4	O	FL grid signal output. Grid 4
4	GRID_7	O	FL grid signal output. Grid 7
5	GRID_6	O	FL grid signal output. Grid 6
6	GRID_5	O	FL grid signal output. Grid 5
7	GRID_2	O	FL grid signal output. Grid 2
8	Vdd		Power supply.
9	SOCK	O	Q data reading clock output to CXD2545Q.
10		O	No used.
11	SUBQ	I	Q data / RF jitter value of CXD 2545Q is read.
12	DIG_SEL1	O	Digital input selector control of TC9245.
13	DIG_SEL2	O	Digital input selector control of TC9245.
14	EMPHASYS	I	Emphasys on / off detection of TC9245.
15	FS_DET2	I	Sampling frequency detection of TC9245.
16	FS_DET1	I	Sampling frequency detection of TC9245.
		DIG-SEL1	H L L L L H H
		DIG-SEL2	H L L L L H H
		Outside input	OFF 1 2 3
		FS-DET1	L L L L L H H
		FS-DET2	L L L L L H H
		Sampling Fs	44.1 48 32
17	RESET		Reset for u - COM
18	OPEN_SW	I	Tray open switch signal input.
19	CLOSE_SW	I	Tray close switch signal input.
20	AVss		No used (GND)
21	M_OPEN	O	Tray open motor drive signal output.
22	M_CLOSE	O	Tray close motor drive signal output.
23	SLT_SW	I	Start limit switch signal input from pick up
24	LOC	O	Laser output
25	CD_DI	O	CD / outside digital input switched.
26	MCK	O	Drive clock output.
27	MDT	O	Drive data output.
28	MLEN	O	Drive latch
29	Add		No uses (Vdd)
30	AVref		No used (GND)
31	ERROR	I	Error signal input from TC9245.
32			No used (OPEN)
33	Vss		GND
34	X1		4.19MHz system clock input.
35	X2		4.19MHz system clock input.
36	SDATA	I/O	Serial data signal input / output.
37	SBUSY	I/O	Serial busy signal input / output.
38	MUTE	O	Digital / Analog mute control output.
39	PROM_SDA	O	E2PROM data control.
40	PROM_SCL	O	E2PROM clock control.

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2. Pin description

No.	Name	I/O	Description
41	DSP_CLK	O	Clock output to CXD2545
42	DSP_XLAT	O	Data latch output to CXD2545
43	DSP_DATA	O	Data output to CXD2545
44	SCOR	I	Sub-code synchro detection signal input from CXD2545
45	SCLK	O	Clock output for SENS signal to CXD2545
46	XRST	O	Reset output to periphery IC.
47	REM_IN	I	Remote control signal input
48	IC		Connects to Vss
49	SER8_16	I	Serial 8 / 16 bit switching detection.
50	SENS	I	SENS signal input from CXD2545
51	T_8_32	O	Field test 1. 8 / 32fs switching
52	Vdd		Power supply
53	T_DR_OFF	O	Field test2. Drive circuit on / off switching
54	KR2	I	Key return 2
55	KR1	O	Key return 1
56	KR0	I	Key return 0
57	LOCK	I	LOCK signal input from CXD2545
58	FOK	I	FOK signal input from CXD 2545
59	S_D	O	FL segment d
60	S_Q	O	FL segment q
61	S_R/KS7	O	FL segment r and key scan 7 combined uses.
62	S_N/KS6	O	FL segment n and key scan 6 combined uses.
63	S_P/KS5	O	FL segment p and key scan 5 combined uses.
64	S_O/KS4	O	FL segment o and key scan 4 combined uses.
65	S_E/KS3	O	FL segment e and key scan 3 combined uses.
66	S_C/KS2	O	FL segment c and key scan 2 combined uses.
67	S_G/KS1	O	FL segment g and key scan 1 combined uses.
68	S_F/KS0	O	FL segment f and key scan0 combined uses.
69	S_B	O	FL segment b
70	S_A	O	FL segment a
71	Vload		Negative voltage supply for FL.
72	S_M	O	FL segment : m
73	S_H	O	FL segment : h
74	S_L	O	FL segment : l
75	S_K	O	FL segment : k
76	S_J	O	FL segment : j
77	S_I	O	FL segment : i
78	DIG_LED1		Digital in 1 / Display off LED display.
79	DIG_LED2		Digital in 2 LED display
80	DIG_LED3		Digital in 3 LED display

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CIRCUIT DESCRIPTION

3. KEY MATRIX

5 6 K R 0		5 5 K R 1	5 4 K R 2
6 8 K . S C A N 0	D I G . I N S E L	P E A K S E A R C H	D I S P L A Y R E P E A T (7 0 9 0) (7 0 0 2 / 5 0 0 2)
6 7 K . S C A N 1	S T O P	P L A Y / P A U S E	I N D E X +
6 6 K . S C A N 2	S K I P D O W N	S K I P U P	I N D E X -
6 5 K . S C A N 3	F B	F F	O P E N / C L O S E
6 4 K . S C A N 4	D I O D E 1	D I O D E 2	
6 3 K . S C A N 5			
6 2 K . S C A N 6			

4. DIODE MATRIX (Model distinction)

5 6 K R 0 (D I O D E 1) (D 3 3)		5 5 K R 1 (D I O D E 2) (D 6)
6 4 S O	D P - 7 0 9 0	0
	D P F - 7 0 0 2	0
	D P F - 5 0 0 2	1
0 : n o n d i o d e / 1 : d i o d e		0

5. Test mode

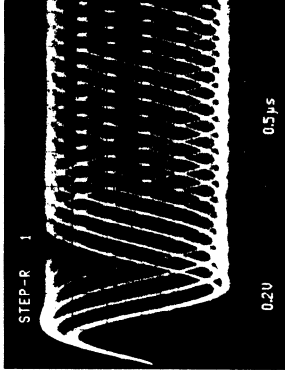
MODE : Adjustment/Inspection (Self adjustment confirmation)				Note
INPUT key	DIS-PLAY	Action		
1 The power supply is turned on while pressing PEAK SEARCH key.	0 1	Test mode	TIME display turn-off	
2 PLAY/PAUSE key	0 5 ↓ 0 3	0 5 → 0 3 cyclic action with 05 mode	03 mode: Focus servo only on condition. 05 mode: Play condition without reading TOC.	
3 UP key	—	All illumination All turn-offs (FL, LED)	When other key are pressed this mode is canceled.	
4 DOWN key		Canceling a test mode it become usual play condition.	Only STOP condition is effective TIME display turn-off.	
5 FF key	0 1	Feed	Only STOP condition is effective TIME display turn-off.	
6 FB key	0 1	Feed	Only STOP condition is effective TIME display turn-off.	
7 STOP key	0 7 ↓ 0 8 ↓ 0 9 ↓ 1 0	Doing STOP it becomes 07 mode completion condition. A display content changes a limit cyclically when STOP key is pressed consecutively. 07 → [07 FF : FB] 08 → [08 FG : TG] 09 → [09 FE : RF] 10 → [10 TE : VC] (07 → 08 → 09 → 10 → 07 cyclic.)	* "PGM.PGM CHECK" self adjustment is lighted at the time of NG determination and even NG item flickers. * EF,FB,FE excludes from OK/NG determination with hexadecimal number. (EF : EF balance FB : focus bias) (FE : EF balance FB : focus bias) 07 mode → — : — 08 mode → 0D ~ 7E : 09 ~ 7E 09 mode → — : 08 ~ 0D 10 mode → 3F ~ 0C : 19 ~ E6	
8 O / C		Open/close of a tray	A test mode does not cancel. A clear is done only as a result of self adjustment.	

ADJUSTMENT

No.	ITEM	INPUT SETTING	OUTPUT SETTING	PLAYER SETTING	ALIGNMENT POINT	ALIGN FOR	FIG.
1	FOCUS ERROR BALANCE	Test disc Type 4	Connect an oscilloscope as follows. CH1 : RF(CN3 pin1)	Set the unit to test mode. Press the PLAY key, then display is "05".	FE BALANCE VR 1	Optimum eye pattern.	(a)

Note :
Type 4 disc : SONY YEDS-18 TEST Disc or equivalent.
Step 1 is In Test Mode. (Tesc Mode : Turn power on with pressing PEAK SEARCH key.)

FIG. (a)

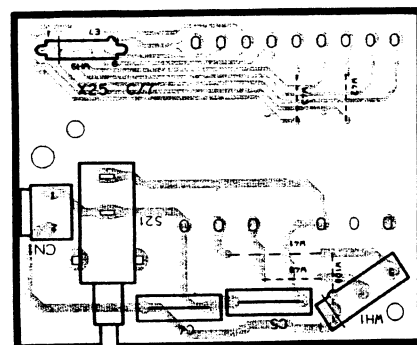
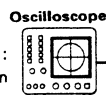


- RF signal in test mode (PLAY).
- Perform the tangential and focusing offset are focused into one point on the display. The crossing points above and below the center shall also be locked clearly. (FE BALANCE)

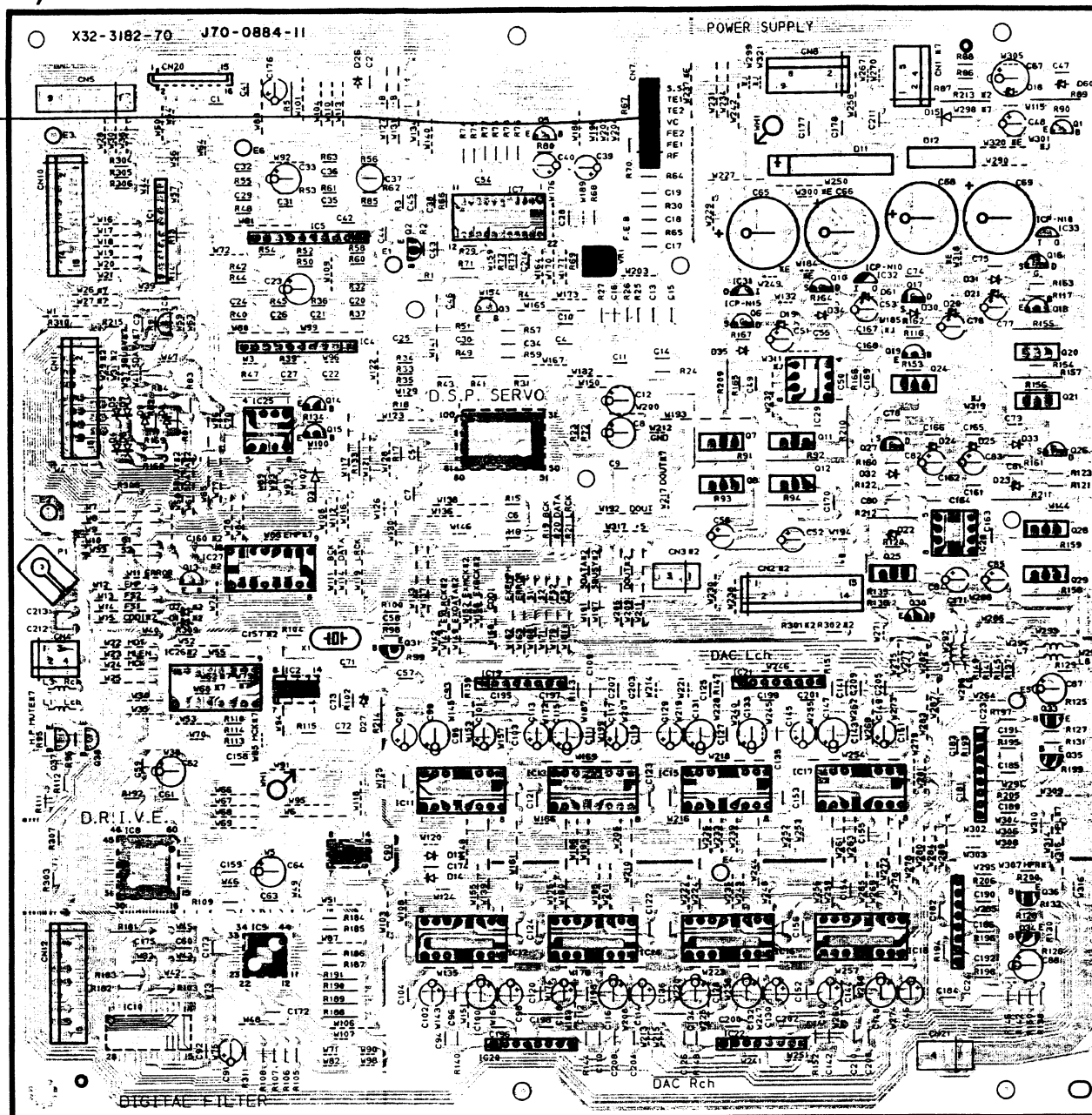
PC BOARD(COMPONENT SIDE VIEW)

CD PLAYER UNIT (X32-3182-70)

(a) Focus error balance :
Optimum eye pattern



POWER



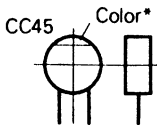
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PARTS DESCRIPTIONS

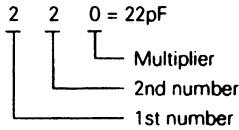
CAPACITORS

CC	45	TH	1H	220	J
1	2	3	4	5	6
1 = Type ... ceramic, electrolytic, etc.			4 = Voltage rating		
2 = Shape ... round, square, ect.			5 = Value		
3 = Temp. coefficient			6 = Tolerance		



Capacitor value

010	= 1pF
100	= 10pF
101	= 100pF
102	= 1000pF = 0.001μF
103	= 0.01μF



Temperature coefficient

1st Word	C	L	P	R	S	T	U
Color*	Black	Red	Orange	Yellow	Green	Blue	Violet
ppm/°C	0	-80	-150	-220	-330	-470	-750

2nd Word	G	H	J	K	L
ppm/°C	±30	±60	±120	±250	±500

Example : CC45TH = -470 ± 60ppm/°C

Tolerance (More than 10pF)

Code	C	D	G	J	K	M	X	Z	P	No code
(%)	±0.25	±0.5	±2	±5	±10	±20	+40 -20	+80 -20	+100 -0	More than 10μF - 10 ~ +50 Less than 4.7μF -10 ~ +75

(Less than 10pF)

Code	B	C	D	F	G
(pF)	±0.1	±0.25	±0.5	±1	±2

Voltage rating

2nd word	A	B	C	D	E	F	G	H	J	K	V
1st word											
0	1.0	1.25	1.6	2.0	2.5	3.15	4.0	5.0	6.3	8.0	-
1	10	12.5	16	20	25	31.5	40	50	63	80	35
2	100	125	160	200	250	315	400	500	630	800	-
3	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	-

Chip capacitors

(EX)	C	C	7	3	F	S	L	1	H	0	0	0	J
	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	1	2	3	4	5	6			7				
	(Chip) (CH, RH, UJ, SL)												

(EX)	C	K	7	3	F	F	1	H	0	0	0	Z	
	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
	1	2	3	4	5	6			7				
	(Chip) (B, F)												

Refer to the table above.

1 = Type

2 = Shape

3 = Dimension

4 = Temp. coefficient

5 = Voltage rating

6 = Value

7 = Tolerance

Dimension (Chip capacitors)

Dimension code	L	W	T
Empty	5.6 ± 0.5	5.0 ± 0.5	Less than 2.0
A	4.5 ± 0.5	3.2 ± 0.4	Less than 2.0
B	4.5 ± 0.5	2.0 ± 0.3	Less than 2.0
C	4.5 ± 0.5	1.25 ± 0.2	Less than 1.25
D	3.2 ± 0.4	2.5 ± 0.3	Less than 1.5
E	3.2 ± 0.2	1.6 ± 0.2	Less than 1.25
F	2.0 ± 0.3	1.25 ± 0.2	Less than 1.25
G	1.6 ± 0.2	0.8 ± 0.2	Less than 1.0

RESISTORS

Chip resistor (Carbon)

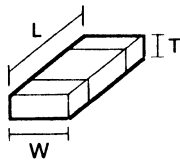
(EX)	R	K	7	3	E	B	2	B	0	0	0	J
	1	2	3	4	5	6	7					
	(Chip) (B, F)											

Carbon resistor (Normal type)

(EX)	R	D	1	4	B	B	2	C	0	0	0	J
	1	2	3	4	5	6	7					

1 = Type	5 = Rating wattage
2 = Shape	6 = Value
3 = Dimension	7 = Tolerance
4 = Temp. coefficient	

Dimension



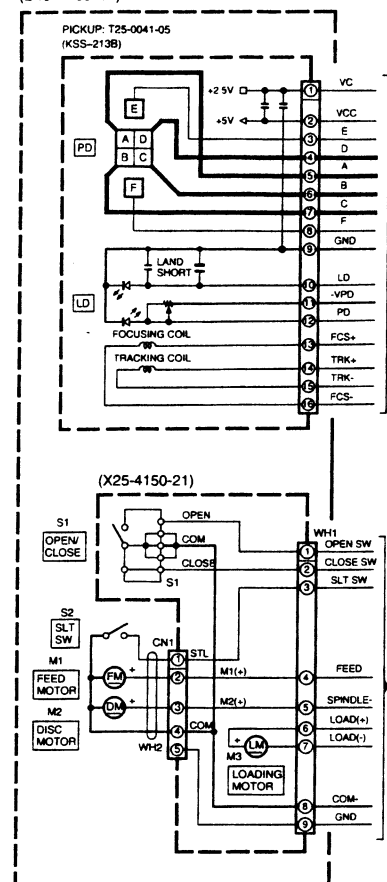
Dimension (Chip resistor)

Dimension code	L	W	T
E	3.2 ± 0.2	1.6 ± 0.2	1.0
F	2.0 ± 0.3	1.25 ± 0.2	1.0
G	1.6 ± 0.2	0.8 ± 0.2	0.5 ± 0.1

Rating wattage

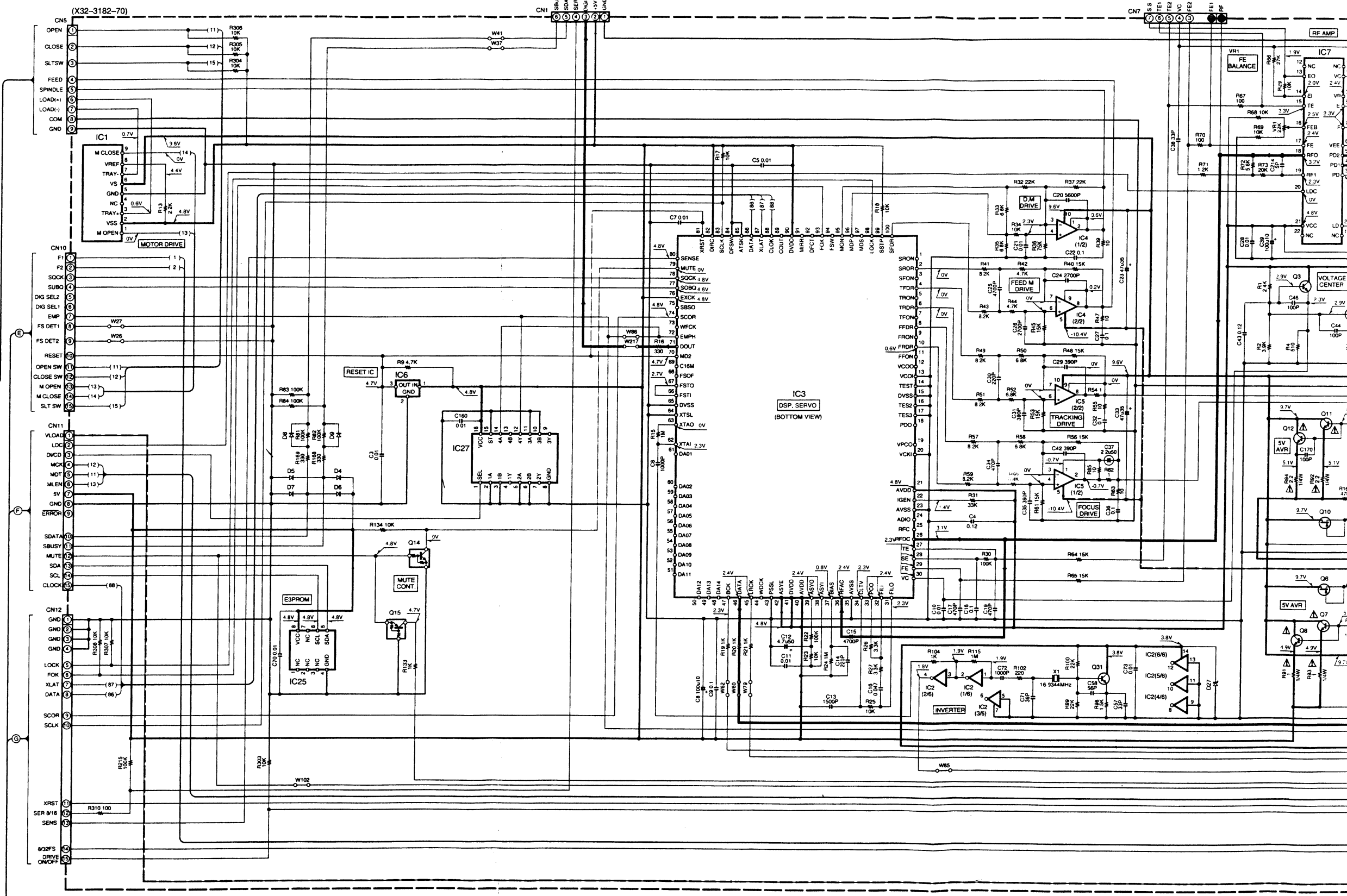
Code	Wattage	Code	Wattage	Code	Wattage
1J	1/16W	2C	1/6W	3A	1W
2A	1/10W	2E	1/4W	3D	2W
2B	1/8W	2H	1/2W		

MECHA. ASS'Y [CDM-19 (9) GS]
(D40-1485-01)



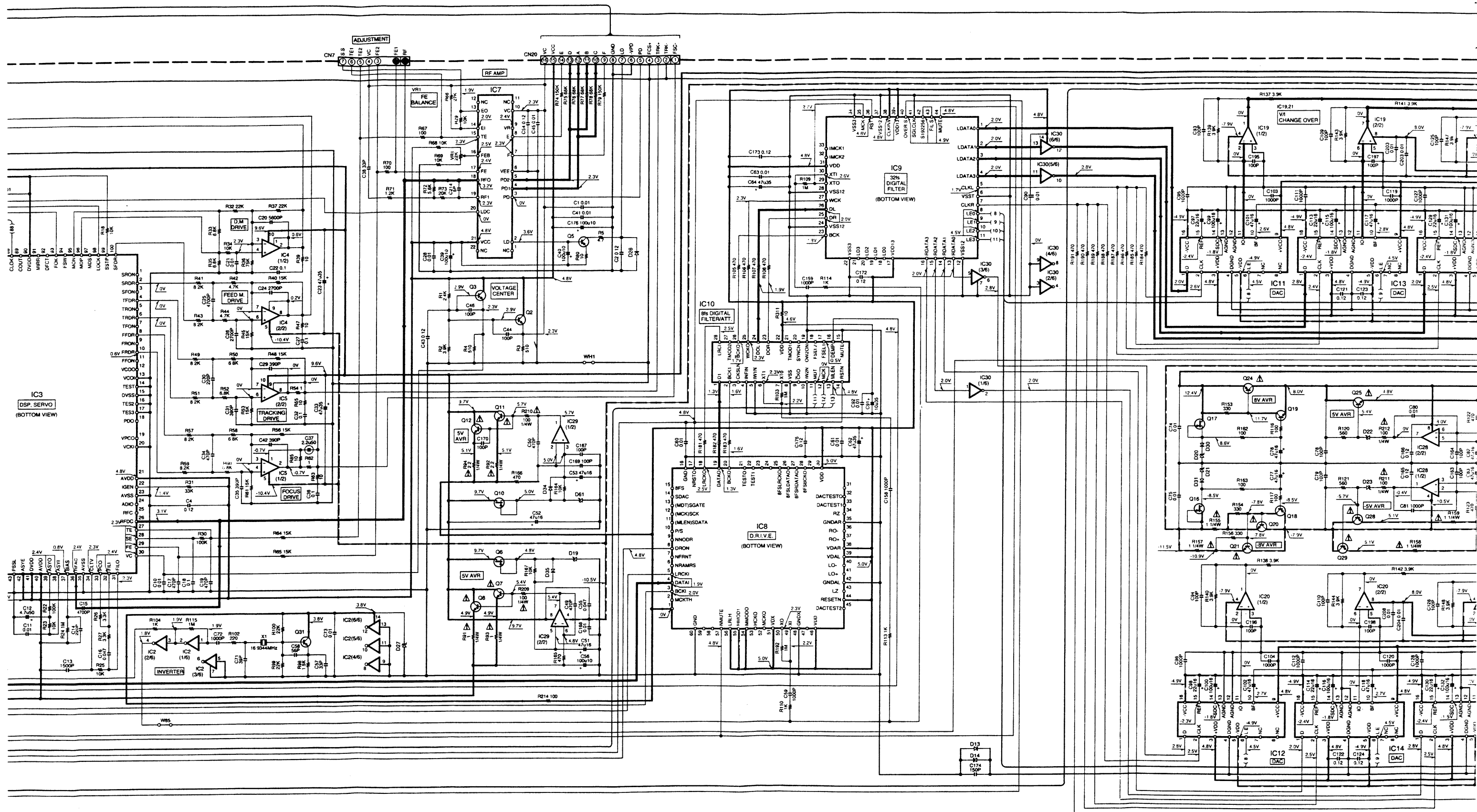
Q1	: 2SA1284	IC1	: TA8409S
Q2,3	: 2SC3940A	IC2,30	: TC74HCU04AF
Q5	: 2SA954(L,K)	IC3	: CXD2545Q
Q6,10,16	: 2SK246(Y,GR)	IC4,5	: TA8410AK
Q7,8	: 2SD2396(J,K)	IC6	: PST993D-T
Q11,12,20	: 2SD2396(J,K)	IC7	: CXA1571S
Q14,30	: 2SD2012	IC8	: KAN03
Q15	: DTA124ESA or UN4212	IC9	: KAN04
Q18	: 2SA992(F,E)	IC10	: SM5843AS1
Q19	: 2SC1845(F,E)	IC11-18	: PCM1702P
Q24,28,29	: 2SB1375	IC19-24	: NJM4580L
Q31	: 2SC1923(P,O)	IC25	: X24COOP
Q33-36	: 2SC2878(B)	IC27	: TC74HC157AP
Q37,38	: 2SD1450(S,T)	IC28,29	: NJM4580D
		IC31	: ICP-N15
		IC32,33	: ICP-N10
		D4-9,13,14	: ISS133 or HSS104
		D11	: D3SBA20F03 or RBV-402LFA
		D12	: 1B48A1
		D15	: S568B or 1SR139-100
		D18	: UZ-5.68SB or MTZJ5.6(B)
		D19,22-25,61	: UZ-5.18SB or MTZJ5.1(B)
		D20,21	: UZ-8.28SB or MTZJ8.2(B)
		D27	: UZ-3.98SB or MTZJ3.9(B)
		D60	: UZ-30BS or MTZJ30(B)

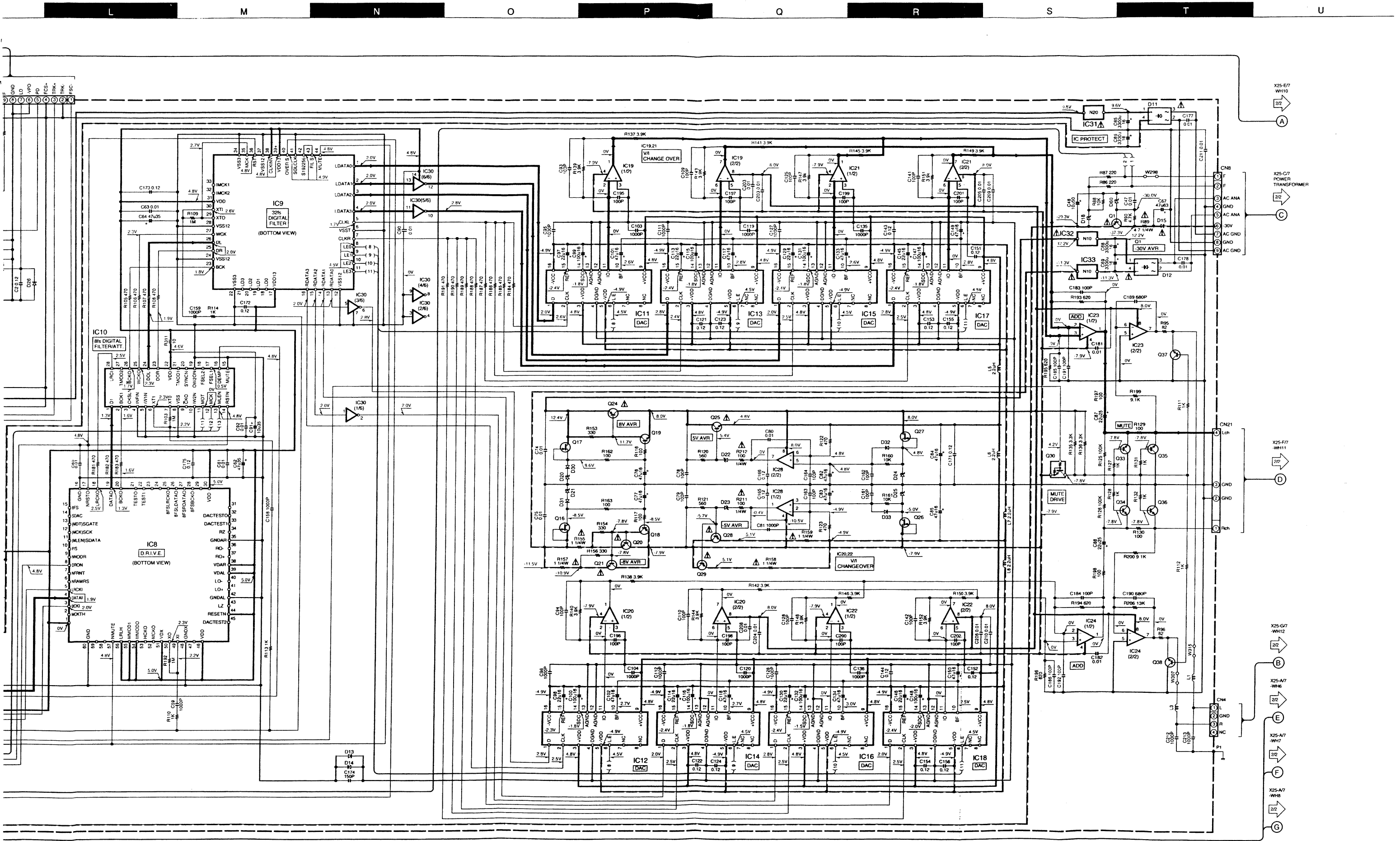
— SIGNAL LINE
— GND LINE
— +B LINE
— -B LINE



CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). Δ indicates safety critical components. For continued protection against risk of fire, replace only with same type and rating fuse(s). To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

The DC voltage is an actual reading measured with a high impedance type voltmeter. The measurement value may vary depending on the measuring instruments used or on the product. Refer to the voltage during PLAY unless otherwise specified; The value shown in () is the voltage measured at the moment of STOP.

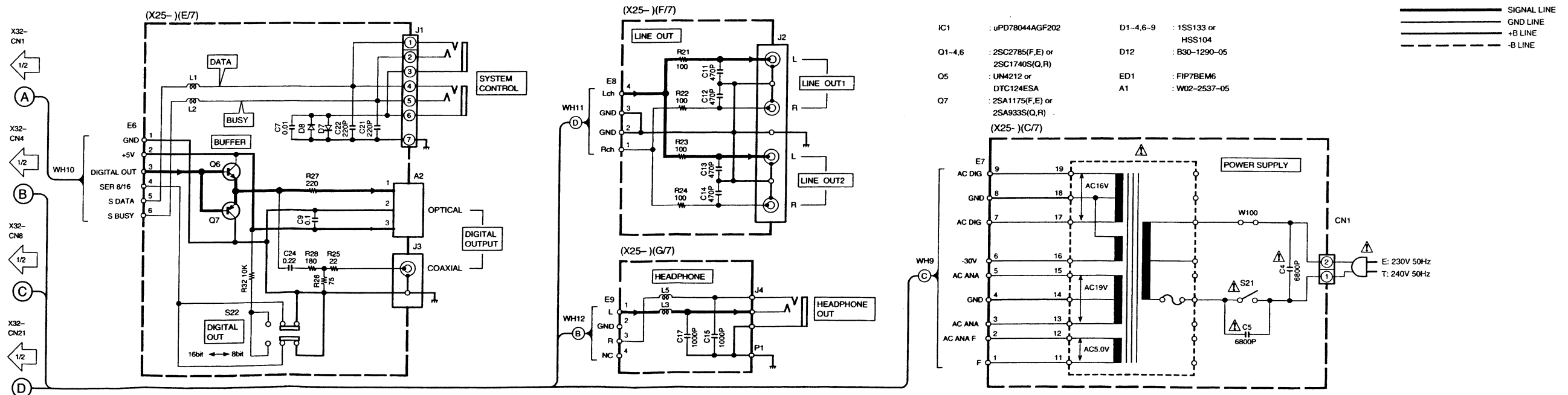
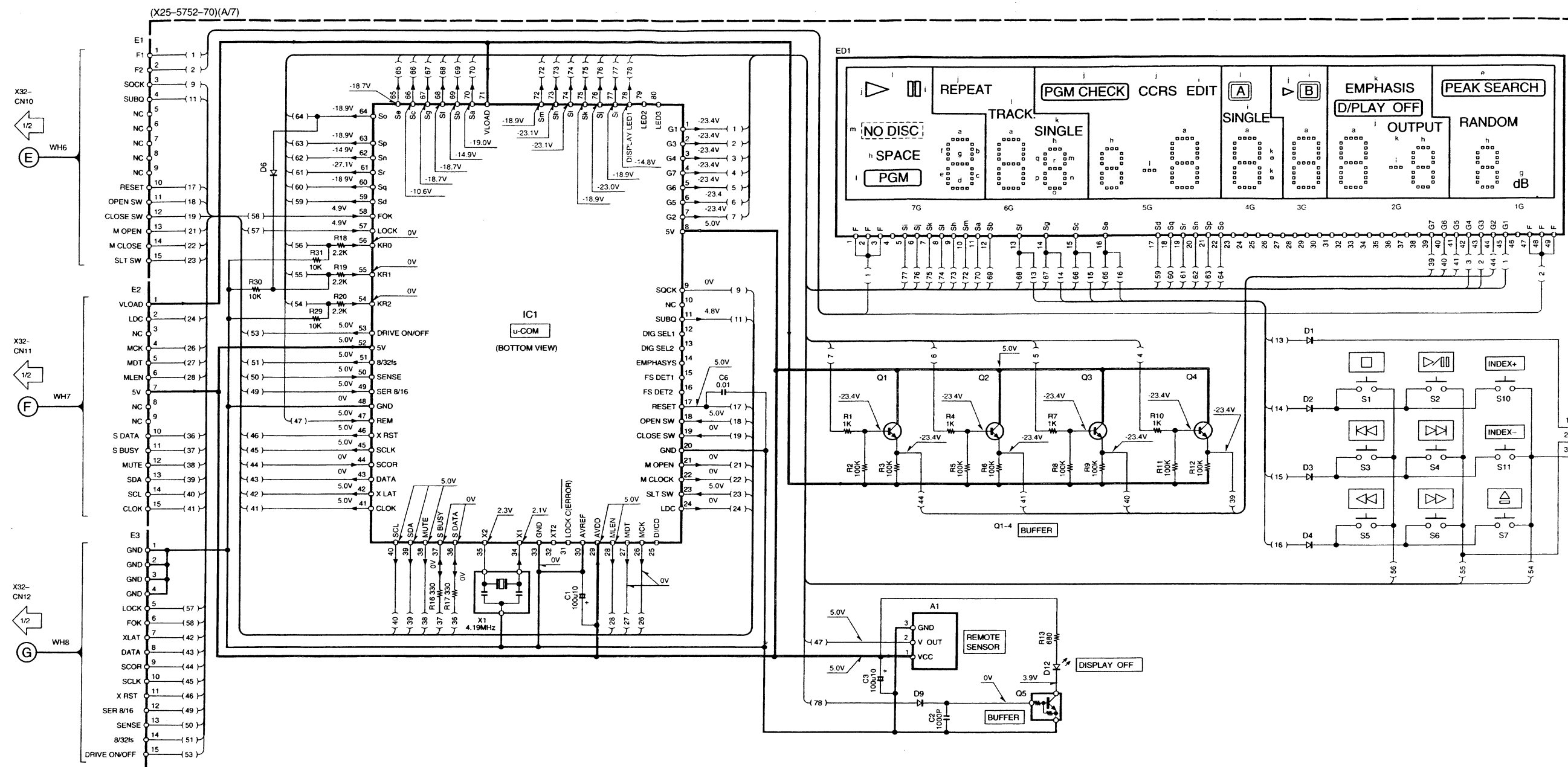


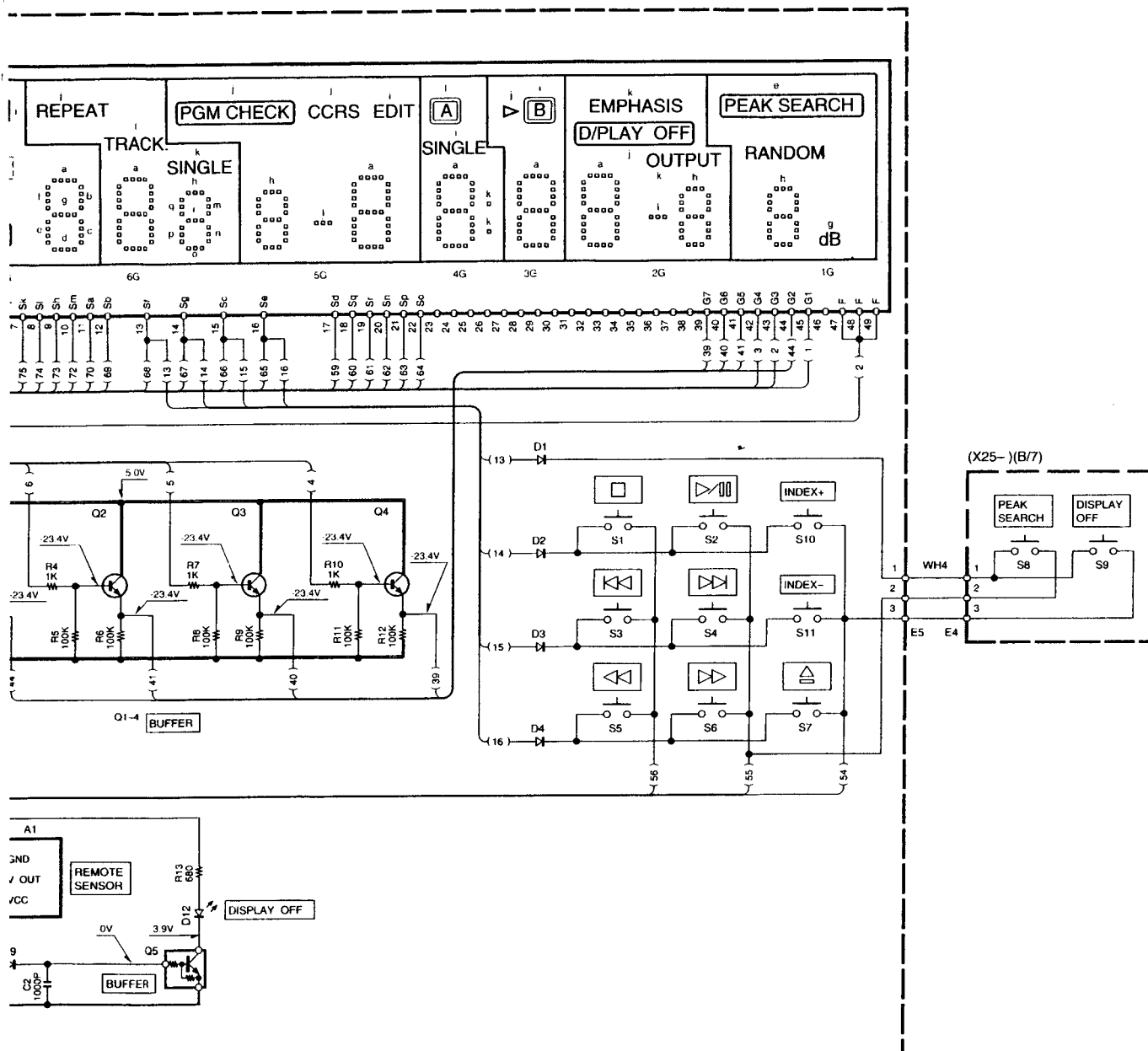


DP-7090(E) (1/2)

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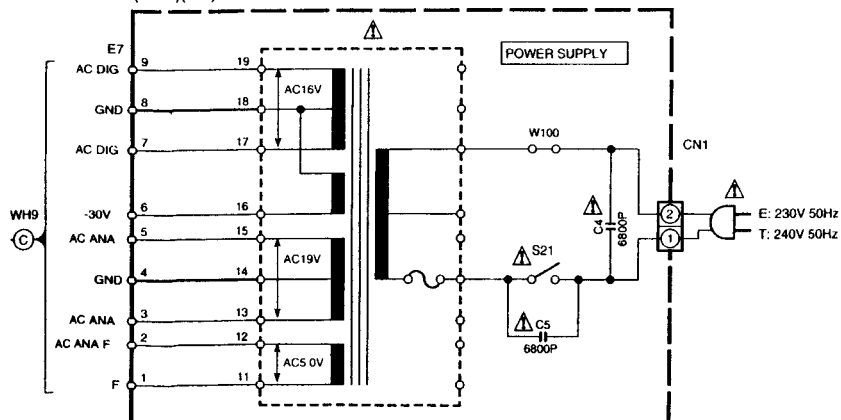
Y22-4602-70





IC1	: μPD78044AGF202	D1-4,6-9	: 1SS133 or HSS104
Q1-4,6	: 2SC2785(F,E) or 2SC1740S(Q,R)	D12	: B30-1290-05
Q5	: UN4212 or DTC124ESA	ED1	: FIP7BEM6
Q7	: 2SA1175(F,E) or 2SA933S(Q,R)	A1	: W02-2537-05

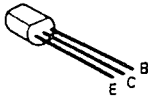
(X25-)(C/7)



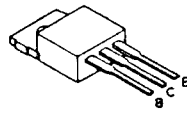
CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). ⚠ indicates safety critical components. For continued protection against risk of fire, replace only with same type and rating fuse(s). To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

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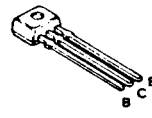
2SA1284
2SA954
2SA992
2SC1845
2SC1923
2SC2878
2SC3940A



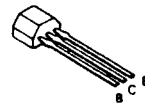
2SD2396



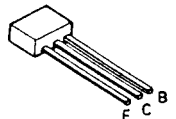
2SA1175
2SC2785



DTA124ESA
DTC124ESA
UN4112
2SC1740S



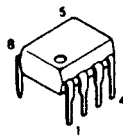
UN4212



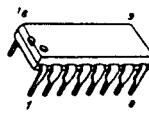
2SB1375
2SD2012



NJM4558D
X24C00P



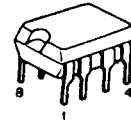
PCM1702P



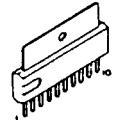
TA8409S



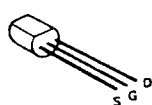
NJM4580L



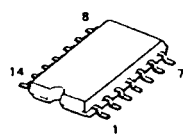
TA8410AK



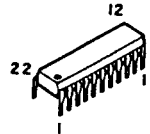
2SK246



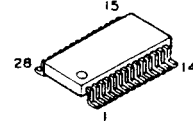
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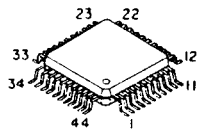
CXA1571S



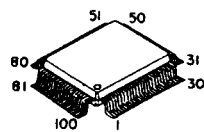
SM5843AS1



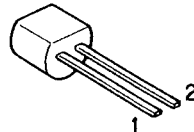
KAN04



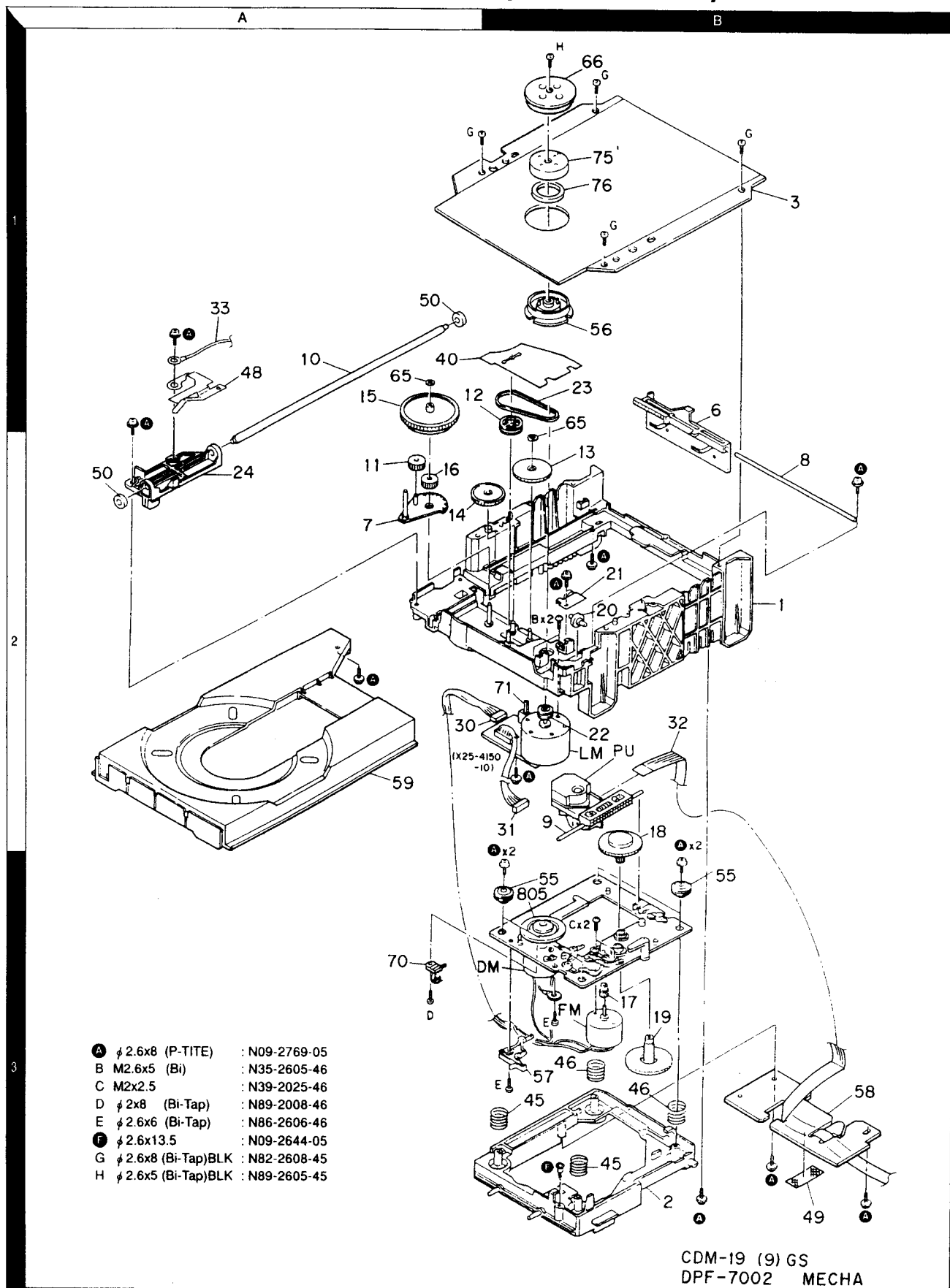
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ICP-N10

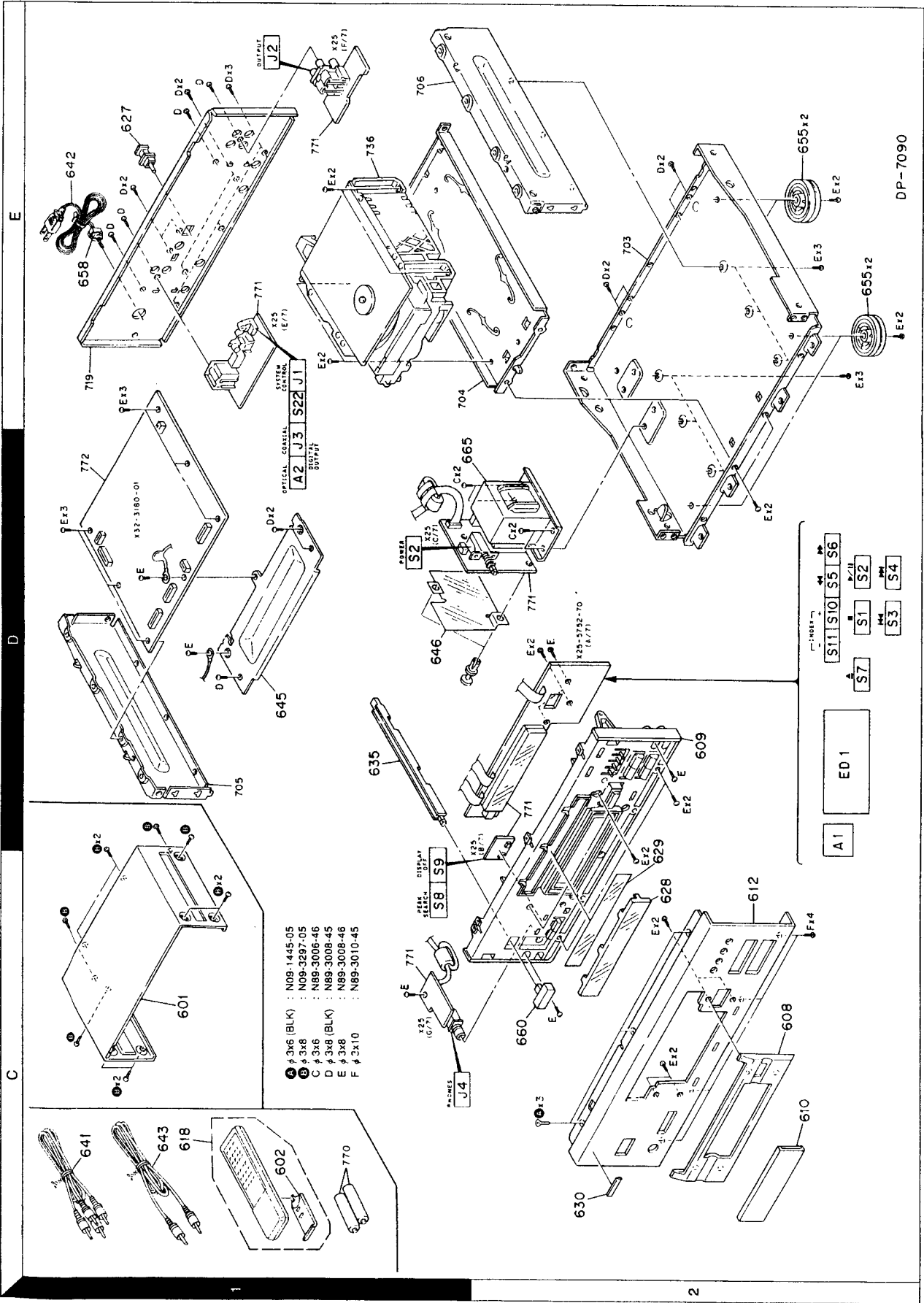


EXPLODED VIEW (MECHANISM)



DP-7090

EXPLODED VIEW (UNIT)



Parts with the exploded numbers larger than 700 are not supplied.

PARTS LIST

* New Parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnés dans le **Parts No.** ne sont pas fournis.
Teile ohne **Parts No.** werden nicht geliefert.

Ref. No	Add- ress	New Parts	Parts No.	Description	Desig- nation	Re- marks
C1			CE04KW1A101M	ELECTRO	100UF	
C2			CO83FMG1H102J	MYLAR	1000PF	10WV
C3			CE04KW1A101M	ELECTRO	100UF	J
C4			C91-1488-05	MF	6800PF	10WV
C5			CO83FMG1H103J	MYLAR	0.010UF	250VAC
C6			CK45FF1H103Z	CERAMIC	0.010UF	J
C7			CO83FMG1H104J	MYLAR	0.10UF	Z
C8			CO83FMG1H471J	MYLAR	470PF	J
C9			CK45FB1H102K	CERAMIC	1000PF	J
C10			CK45FB1H102K	CERAMIC	1000PF	K
C11			CC45FSL1H221J	CERAMIC	220PF	J
C12			CF92FV1H224J	MF-C	0.22UF	J
C13			E40-4245-05	PIN ASSY		
C14			E11-0188-05	MINIATURE PHONE JACK(2P LENGTH		
C15			E63-0121-05	PHONE JACK		
C16			E63-0185-05	PHONE JACK		
C17			E11-0190-05	PHONE JACK (3P)		
C18			J19-3672-03	HOLDER		
C19			L92-0064-05	FERRITE CORE		
C20			L92-0067-05	FERRITE CORE		
C21			L92-0017-05	FERRITE CORE		
C22			L92-0017-05	FERRITE CORE		
C23			L78-0267-05	RESONATOR (4.194MHZ)		
C24			S70-0031-05	TACT SWITCH		
C25			S40-1153-05	PUSH SWITCH		
C26			S31-2094-05	SLIDE SWITCH		
C27			HSS104	DIODE		
C28			1SS133	DIODE		
C29			HSS104	DIODE		
C30			1SS133	DIODE		
C31			FIP7BEM6	INDICATOR TUBE		
C32			UPD78044AGF20	2 MI-COM IC		
C33			2SC1740S(Q,R)	TRANSISTOR		
C34			2SC2785(F,E)	TRANSISTOR		
C35			DTIC124ESA	DIGITAL TRANSISTOR		
C36			UN4212	DIGITAL TRANSISTOR		
C37			2SC1740S(Q,R)	TRANSISTOR		
C38			2SC2785(F,E)	TRANSISTOR		
C39			2SA1175(F,E)	TRANSISTOR		
C40			2SA933AS(Q,R)	TRANSISTOR		
C41			W02-2537-05	ELECTRIC CIRCUIT MODULE		
C42			W02-1114-05	OSCILLATING MODULE		
CD PLAYER UNIT (X32-3182-70)						
C1			CO83FMG1H103J	MYLAR	0.010UF	J
C2			CF92FV1H124J	MF-C	0.12UF	J
C3			CO83FMG1H103J	MYLAR	0.010UF	J
C4			CF92FV1H124J	MF-C	0.12UF	J
C5			CO83FMG1H103J	MYLAR	0.010UF	J
C6			CO83FMG1H102J	MYLAR	1000PF	J
C7			CO83FMG1H103J	MYLAR	0.010UF	J
C8			CE04KW1A101M	ELECTRO	100UF	10WV

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Ref. No	Add- ress	New Parts	Parts No.	Description	Desig- nation	Re- marks
DP-7090						
601	1C	*	A01-3325-01	METALLIC CABINET		
602	1C	*	A09-0170-08	BATTERY COVER		
603	2C	*	A21-1906-03	DRESSING PANEL		
604	2C	*	A21-1911-03	DRESSING PANEL ASSY		
605	2D	*	A22-1723-21	SUB PANEL		
606	2C	*	A29-0823-14	PANEL ASSY		
607	2C	*	A60-0923-02	PANEL		
608	1C	*	A70-1071-05	REMOTE CONTROLLER ASSY		
609		*	B07-2305-04	ESCUTCHEON		
610		*	B07-2306-04	ESCUTCHEON		
611	1E	*	B09-0097-05	OPTICAL OUTPUT TERMINAL CAP		
612	2C	*	B10-2243-13	FRONT GLASS		
613	2C	*	B11-0322-03	COLOR FILTER		
614	2C	*	B43-0302-04	KENWOOD BADGE		
615		*	B46-0310-03	WARRANTY CARD		
616		*	B58-0985-13	CAUTION CARD (PL SENTENCE)		
617		*	B58-0986-13	CAUTION CARD (PL SENTENCE)		
618		*	B60-2732-00	INSTRUCTION MANUAL(ENGLISH)		
619		*	B60-2733-00	INSTRUCTION MANUAL(F.G.D.I)		
620	1D	*	D21-1447-03	EXTENSION SHAFT		
621	1C	*	E28-1618-04	LEAD PLATE		
622	1E	*	E30-0505-05	AUDIO CORD		
623	1E	*	E30-2592-15	AC POWER CORD		
624	1C	*	E30-2721-05	CORD WITH PLUG		
625	1D	*	F19-1085-03	BLIND PLATE		
626	1D	*	F20-1483-04	INSULATING BOARD		
627		*	G10-0146-04	NON-WOVEN FABRIC		
628		*	G11-0155-14	SOFT TAPE (40X9X2)		
629		*	G11-2289-04	CUSHION		
630		*	G11-2272-04	SOFT TAPE		
631		*	H10-7197-02	POLYSTYRENE FOAMED FIXTURE		
632		*	H10-7198-02	POLYSTYRENE FOAMED FIXTURE		
633		*	H12-2288-04	PACKING FIXTURE		
634		*	H25-0232-04	PROTECTION BAG (235X350X0.03)		
635		*	H25-0319-04	PROTECTION BAG		
636		*	H25-0651-04	PROTECTION BAG		
637		*	H25-0657-04	PROTECTION BAG		
638		*	H50-2003-04	ITEM CARTON CASE		
639		*	H50-2005-04	ITEM CARTON CASE		
640	2E	*	J02-1169-03	FOOT		
641	1E	*	J42-0083-05	POWER CORD BUSHING		
642		*	J61-0307-05	WIRE BAND		
643	1C	*	K27-2178-04	KNOB (BUTTON)		
644	1D	*	L07-2171-05	POWER TRANSFORMER		
DISPLAY UNIT (X25-5752-70)						
D12			B30-1290-05	LED		

L: Scandinavia K: USA P: Canada R: Mexico
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Ref. No	Add-ress	New Parts	Parts No.	Description	Depth-nation	Re-marks	Ref. No	Add-ress	New Parts	Parts No.	Description	Depth-nation	Re-marks												
C72			C093FMG1H102J	MYLAR	1000PF	J	C72			C093FMG1H102J	MYLAR	1000PF	J												
C73-75			C093FMG1H103J	MYLAR	0.010UF	J	C73-75			C093FMG1H103J	MYLAR	0.010UF	J												
C76-77			CE04KW1C470M	ELECTRO	47UF	16WV	C76-77			CE04KW1C470M	ELECTRO	47UF	16WV												
C78-79			CC45FSL1H101J	CERAMIC	100PF	J	C78-79			CC45FSL1H101J	CERAMIC	100PF	J												
C80			CC45FSL1H103Z	CERAMIC	0.010UF	Z	C80			CC45FSL1H103Z	CERAMIC	0.010UF	Z												
C81			CC45FSL1H102K	CERAMIC	1000PF	K	C81			CC45FSL1H102K	CERAMIC	1000PF	K												
C82-85			CE04KW1C470M	ELECTRO	47UF	16WV	C82-85			CE04KW1C470M	ELECTRO	47UF	16WV												
C87-88			C90-1814-05	ELECTRO	22UF	25WV	C87-88			C90-1814-05	ELECTRO	22UF	25WV												
C90			C093FMG1H103J	MYLAR	0.010UF	J	C90			C093FMG1H103J	MYLAR	0.010UF	J												
C91			CE04KW1V100M	ELECTRO	10UF	35WV	C91			CE04KW1V100M	ELECTRO	10UF	35WV												
C92			C093FMG1H103J	MYLAR	0.010UF	J	C92			C093FMG1H103J	MYLAR	0.010UF	J												
C93-94			CF92FV1H101K	MF-C	100PF	K	C93-94			CF92FV1H101K	MF-C	100PF	K												
C95-96			CC45FSL1H102K	CERAMIC	1000PF	K	C95-96			CC45FSL1H102K	CERAMIC	1000PF	K												
C97-98			CE04KW1C220M	ELECTRO	22UF	16WV	C97-98			CE04KW1C220M	ELECTRO	22UF	16WV												
C99-100			CE04KW1C101M	ELECTRO	100UF	16WV	C99-100			CE04KW1C101M	ELECTRO	100UF	16WV												
C101,102			CE04KW1C470M	ELECTRO	47UF	16WV	C101,102			CE04KW1C470M	ELECTRO	47UF	16WV												
C103,104			CE04FSL1H102K	CERAMIC	1000PF	K	C103,104			CE04FSL1H102K	CERAMIC	1000PF	K												
C109,110			CF92FV1H101K	MF-C	100PF	K	C109,110			CF92FV1H101K	MF-C	100PF	K												
C111,112			CC45FSL1H102K	CERAMIC	1000PF	K	C111,112			CC45FSL1H102K	CERAMIC	1000PF	K												
C113,114			CE04KW1C220M	ELECTRO	22UF	16WV	C113,114			CE04KW1C220M	ELECTRO	22UF	16WV												
C115,116			CE04KW1C101M	ELECTRO	100UF	16WV	C115,116			CE04KW1C101M	ELECTRO	100UF	16WV												
C117,118			CE04KW1C470M	ELECTRO	47UF	16WV	C117,118			CE04KW1C470M	ELECTRO	47UF	16WV												
C119,120			CC45FSL1H102K	CERAMIC	1000PF	K	C119,120			CC45FSL1H102K	CERAMIC	1000PF	K												
C121-124			CF92FV1H124J	MF-C	0.12UF	J	C121-124			CF92FV1H124J	MF-C	0.12UF	J												
C125,126			CF92FV1H101K	MF-C	100PF	K	C125,126			CF92FV1H101K	MF-C	100PF	K												
C127,128			CC45FSL1H102K	CERAMIC	1000PF	K	C127,128			CC45FSL1H102K	CERAMIC	1000PF	K												
C129,130			CE04KW1C220M	ELECTRO	22UF	16WV	C129,130			CE04KW1C220M	ELECTRO	22UF	16WV												
C131,132			CE04KW1C101M	ELECTRO	100UF	16WV	C131,132			CE04KW1C101M	ELECTRO	100UF	16WV												
C133,134			CE04KW1C470M	ELECTRO	47UF	16WV	C133,134			CE04KW1C470M	ELECTRO	47UF	16WV												
C135,136			CC45FSL1H102K	CERAMIC	1000PF	K	C135,136			CC45FSL1H102K	CERAMIC	1000PF	K												
C141,142			CF92FV1H101K	MF-C	100PF	K	C141,142			CF92FV1H101K	MF-C	100PF	K												
C143,144			CF92FV1H124J	MF-C	0.12UF	J	C143,144			CF92FV1H124J	MF-C	0.12UF	J												
C145,146			CE04KW1C220M	ELECTRO	22UF	16WV	C145,146			CE04KW1C220M	ELECTRO	22UF	16WV												
C147,148			CE04KW1C101M	ELECTRO	100UF	16WV	C147,148			CE04KW1C101M	ELECTRO	100UF	16WV												
C149,150			CE04KW1C470M	ELECTRO	47UF	16WV	C149,150			CE04KW1C470M	ELECTRO	47UF	16WV												
C151-156			CF92FV1H124J	MF-C	0.12UF	J	C151-156			CF92FV1H124J	MF-C	0.12UF	J												
C158,159			C093FMG1H102J	MYLAR	1000PF	J	C158,159			C093FMG1H102J	MYLAR	1000PF	J												
C161-164			CC45FSL1H101J	CERAMIC	100PF	J	C161-164			CC45FSL1H101J	CERAMIC	100PF	J												
C165,166			CF92FV1H124J	MF-C	0.12UF	J	C165,166			CF92FV1H124J	MF-C	0.12UF	J												
C167			CC45FSL1H101J	CERAMIC	100PF	J	C167			CC45FSL1H101J	CERAMIC	100PF	J												
C168			CC45FSL1H103Z	CERAMIC	0.010UF	Z	C168			CC45FSL1H103Z	CERAMIC	0.010UF	Z												
C171-173			CF92FV1H101J	MF-C	0.12UF	J	C171-173			CF92FV1H101J	MF-C	0.12UF	J												
C174			CF92FV1H124J	FILM	150PF	J	C174			CF92FV1H124J	FILM	150PF	J												
C175			C91-1476-05	FILM	100PF	J	C175			C91-1476-05	FILM	100PF	J												
C176			CF92FV1H124J	MF-C	0.12UF	J	C176			CF92FV1H124J	MF-C	0.12UF	J												
C177,178			CE04KW1A101M	ELECTRO	100UF	10WV	C177,178			CE04KW1A101M	ELECTRO	100UF	10WV												
C181,182			C093FMG1H103J	MYLAR	0.010UF	J	C181,182			C093FMG1H103J	MYLAR	0.010UF	J												
C183-186			C91-1474-05	FILM	100PF	J	C183-186			C91-1474-05	FILM	100PF	J												
C189,190			C093FMG1H681J	MYLAR	680PF	J	C189,190			C093FMG1H681J	MYLAR	680PF	J												
C191,192			C91-1474-05	FILM	100PF	J	C191,192			C91-1474-05	FILM	100PF	J												
C195-202			CC45FSL1H101J	CERAMIC	0.010UF	Z	C195-202			CC45FSL1H101J	CERAMIC	0.010UF	Z												
C203-211			CC45FSL1H103Z	CERAMIC	1000PF	K	C203-211			CC45FSL1H103Z	CERAMIC	1000PF	K												
C212,213			CC45FSL1H102K	CERAMIC	5.0PF	C	C212,213			CC45FSL1H102K	CERAMIC	5.0PF	C												
C214			CC45FSL1H050C	CERAMIC			C214			CC45FSL1H050C	CERAMIC														
L : Scandinavia K : USA P : Canada R : Mexico Y : PX(Far East, Hawaii) T : Europe E : Europe G : Germany V : AAFES(Europe) X : Australia M : Other Areas													L : Scandinavia K : USA P : Canada R : Mexico Y : PX(Far East, Hawaii) T : Europe E : Europe G : Germany V : AAFES(Europe) X : Australia M : Other Areas												

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PARTS LIST

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Ref. No	Add- ress	New Parts	Parts No.	Description	Designation	Re- marks
IC7			CXA1571S	ANALOGUE IC		
IC8			KAN03	CUSTOM IC		
IC9			SM5843AS1	CUSTOM IC		
IC10			PCM1702P	MOS-IC		
IC11-18						
IC19-24			NJM4580L	IC(OP AMP X2)		
IC25			X24C00P	MEMORY IC		
IC28-29			NJM4558D	ANALOGUE IC		
IC30			TC74HCU04AF	IC(HEX INVERTER SMD)		
IC31		*	ICP-N20	ANALOGUE IC		
IC32-33						
O1		*	ICP-N10	ANALOGUE IC		
O2			2SA1284	TRANSISTOR		
O3			2SC3940A	TRANSISTOR		
O5			2SA954(L,K)	TRANSISTOR		
O6			2SK246(Y,GR)	FET		
O7-8			2SD2396(J,K)	TRANSISTOR		
O10			2SK246(Y,GR)	FET		
O11-12			2SD2396(L,K)	TRANSISTOR		
O14			DT1C124ESA	DIGITAL TRANSISTOR		
O15			DTA124ESA	DIGITAL TRANSISTOR		
O16-17			UN4112	DIGITAL TRANSISTOR		
O18			2SK246(Y,GR)	FET		
O19			2SA992(F,E)	TRANSISTOR		
O20-21			2SC1845(F,E)	TRANSISTOR		
O24			2SD2012	TRANSISTOR		
O25			2SD2012	TRANSISTOR		
O26-27			2SK246(Y,GR)	FET		
O28-29			2SB1375	TRANSISTOR		
Q30			DT1C124ESA	DIGITAL TRANSISTOR		
Q31			UN4212	DIGITAL TRANSISTOR		
Q33-36			2SC1923(R,O)	TRANSISTOR		
Q37-38			2SC2878(B)	TRANSISTOR		
			2SD1450(S,T)	TRANSISTOR		
CD MECHANISM ASSY (D40-1485-11)						
1	2B		A10-2798-32	CHASSIS ASSY		
2	3B		A11-0695-25	SUB CHASSIS (FRAME)		
3	1B		A11-0723-03	SUB CHASSIS (CLAMP)		
6	1B		D10-2479-03	SLIDER		
7	2A		D10-2481-04	ARM ASSY		
10	1A		D10-2491-04	ROD (RETAINER)		
11	2A		D13-0744-04	GEAR		
12	1A		D13-0779-04	GEAR (PULLEY)		
13	2B		D13-0780-04	GEAR (INTERMEDIATE)		
14	2A		D13-0890-04	GEAR (IDLER)		
15	1A		D13-0891-03	GEAR (MAIN)		
16	2B		D13-0892-04	GEAR		
17	3B	*	D13-0894-04	GEAR (FEED MOTOR)		
18	2B		D13-0895-05	GEAR (INTERMEDIATE)		
19	3B		D13-0896-05	GEAR (FEED)		
20	2B		D14-0324-04	ROLLER		
21	2B		D14-0325-04	ROLLER ASSY		
22	2B		D15-0295-04	MOTOR PULLEY (LOADING MOTOR)		

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Ref. No	Add- ress	New Parts	Parts No.	Description	Designation	Re- marks
CN1			E40-4296-05	FLAT CABLE CONNECTOR		
CN4			E40-4294-05	FLAT CABLE CONNECTOR		
CN5			E40-3253-05	PIN ASSY		
CN7			E40-4876-05	PIN ASSY		
CN8			E40-4807-05	PIN ASSY		
CN10-12						
CN20			E40-4609-05	PIN ASSY		
CN21			E40-4856-05	FLAT CABLE CONNECTOR		
E1-3			E40-3248-05	PIN ASSY		
L1			J11-0098-05	WIRE CLAMPER		
L3						
L5-8			L92-0017-05	FERRITE CORE		
X1			L92-0017-05	FERRITE CORE		
			L40-2291-17	SMALL FIXED INDUCTOR		
			L77-2133-05	CRYSTAL RESONATOR(16.9344MHZ-1		
R89			RD14NB2E4R7J	RD	4.7 J 1/4W	
R91-94			RD14NB2E1R0J	RD	1.0 J 1/4W	
R137-152			RD14NB2E1R0J	RD	3.90K F 1/6W	
R155			RD14NB2E1R0J	RD	1.0 J 1/4W	
R157-159			RD14NB2E1R0J	RD	1.0 J 1/4W	
R209-212			RD14NB2E101J	RD	100 J 1/4W	
R311			RD14NB2E100J	RD	10 J 1/4W	
VR1			R12-3686-05	TRIMMING POT.(22K)		
D4-9			HSS104	DIODE		
D4-9			1SS133	DIODE		
D11			D3SBA20F03	DIODE		
D12			RBV-402LFA	DIODE		
			1B4B41	DIODE		
D13-14			HSS104	DIODE		
D13-14			1SS133	DIODE		
D15			S5688B	DIODE		
D15			1SR139-400	DIODE		
D18			MTZJ5.6(B)	ZENER DIODE		
D18			UZ-5.6BSB	ZENER DIODE		
D19			MTZJ5.1(B)	ZENER DIODE		
D19			UZ-5.1BSB	ZENER DIODE		
D20-21			MTZJ8.2(B)	ZENER DIODE		
D20-21			UZ-8.2BSB	ZENER DIODE		
D22-25			MTZJ5.1(B)	ZENER DIODE		
D22-25			UZ-5.1BSB	ZENER DIODE		
D26			HSS104	DIODE		
D26			1SS133	DIODE		
D27			MTZJ3.9(B)	ZENER DIODE		
D27			UZ-3.9BSB	ZENER DIODE		
D30-35			HSS104	DIODE		
D30-35			1SS133	DIODE		
D60			MTZJ30(B)	ZENER DIODE		
D60			UZ-30BS	ZENER DIODE		
D61			MTZJ5.1(B)	ZENER DIODE		
D61			UZ-5.1BSB	ZENER DIODE		
IC1			TAB409S	MOS-IC		
IC2			TC74HCU04AF	IC(HEX INVERTER SMD)		
IC3			CXD2545Q	MOS-IC		
IC4-5			TAB410AK	ANALOGUE IC		
IC6			PST993D-T	ANALOGUE IC		

L : Scandinavia
Y : PX(Far East, Hawaii)
Y : AAFES(Europe)

K : USA
P : Canada
E : Europe
X : Australia
M : Other Areas

R : Mexico
G : Germany

Δ indicates safety critical components.

PARTS LIST

7

* New Parts

Parts without **Parts No.** are not supplied.

Les articles non mentionnés dans le **Parts No.** ne sont pas fournis.

Teile ohne **Parts No.** werden nicht geliefert.

Ref. No	Add. res.	New Part	Parts No.	Description	Designation	Remarks
23	1B		D16-0309-03	BELT		
24	2A		D23-0267-03	RETAINER		
30	2A		E31-7868-25	WIRING HARNESS		
31	2B	*	E35-1542-05	WIRING HARNESS		
32	2B	*	E35-1543-05	FLAT CABLE		
33	1B	*	E35-1583-15	WIRING HARNESS		
34		*	E40-3263-05	PIN ASSY		
40	1A		F19-1027-04	BLIND PLATE		
45	3B		G01-3326-14	COMPRESSION SPRING (FRONT)		
46	3B		G01-3327-14	COMPRESSION SPRING (REAR)		
48	1A		G02-1020-04	FLAT SPRING		
49	3B		G10-0146-04	NON-WOVEN FABRIC		
50	1A, 2A		G11-2038-04	CUSHION		
55	3B		J02-1058-15	INSULATOR		
56	1B		J11-0173-33	CLAMPER		
57	3B		J19-3335-05	BRACKET		
58	3B		J19-5708-14	BRACKET		
59	2A	*	J99-0088-23	TRAY ASSY		
65	1B		N19-0366-04	FLAT WASHER		
66	1B		N19-1292-04	FLAT WASHER		
70	3A		S33-1022-05	LEVER SWITCH		
DM	3B		A11-0733-05	SUB CHASSIS ASSY (DISC MOTOR)		
FM	3B		T42-0532-05	DC MOTOR (FEED MOTOR)		
LM	2B		T42-0530-05	DC MOTOR (LOADING MOTOR)		
PU	2B		T25-0041-05	OPTICAL PICKUP HEAD (KSS-213B)		

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SPECIFICATIONS

[Format]

System Compact disc digital audio system
Laser Semiconductor laser

[D/A Convertors]

D/A Conversion	20 Bit
Oversampling.....	32 fs (1411.2 kHz)

[Audio]

Frequency response	4Hz ~ 20 kHz, ± 0.3 dB
Signal to noise ratio	More than 120 dB
Dynamic range	More than 99 dB
Total harmonic distortion + noise	Less than 0.002 % (at 1 kHz)
Channel separation	More than 100 dB (at 1 kHz)

Wow & flutter	Unmeasurable Limit
Output level / impedance	
Variable	0 ~ 2 V / 0.3 k Ω
Digital output	
Coaxial.....	0.5 V p-p / 75 Ω
Optical.....	-15 dBm ~ -21 dBm
(Wave length 660 nm)	
Headphone output (Max.)	20 mW (32 Ω)

[General]

Power consumption20 W

DimensionsW: 440 mm (17-5/16")
H: 147 mm (5-13/16")
D: 366 mm (14-7/16")

Weight (Net)7.6 kg (16.7 lb)

Note :

KENWOOD follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

Note:

Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on Europe (E) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

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